What is claimed is:

1. An apparatus for generating a stereo sound, comprising:

    at least a direct sound positioner used to generate at least a direct sound signal after receiving an input sound channel;

5   at least a reverberation positioner used to generate at least a reverberation direction signal after receiving the input sound channel;

    at least a first sound integrator used to receive the direct sound signal and output an integrated direct sound signal;

    at least a second sound integrator used to receive the reverberation

10   direction signal and output an integrated reverberation direction signal;

    at least a reverberation generator used to receive the integrated reverberation direction signal and output a reverberation signal; and

    at least a space processor used to receive the integrated direct sound signal and the reverberation signal and output the stereo sound for a

15   user.

2. The apparatus as claimed in claim 1, wherein the direct sound signal generated by the direct sound positioner is a right direct sound signal or a left direct sound signal.

3. The apparatus as claimed in claim 1, wherein the reverberation direction

20   signal generated by the reverberation positioner is a right reverberation direction signal or a left reverberation direction signal.

4. The apparatus as claimed in claim 2, wherein the first sound integrator is a left sound integrator used to receive the left direct sound signal generated by the direct sound positioner to output an integrated sound

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signal, the integrated sound signal being an integrated left direct sound signal.

5. The apparatus as claimed in claim 2, wherein the first sound integrator is a right sound integrator used to receive the right direct sound signal generated by the direct sound positioner to output an integrated sound signal, the integrated sound signal being an integrated right direct sound signal.

6. The apparatus as claimed in claim 3, wherein the second sound integrator is a left sound integrator used to receive the left reverberation direction signal generated by the reverberation positioner to output an integrated sound signal, the integrated sound signal being an integrated left reverberation direction signal.

7. The apparatus as claimed in claim 3, wherein the second sound integrator is a right sound integrator used to receive the right reverberation direction signal generated by the reverberation positioner to output an integrated sound signal, the integrated sound signal being an integrated right reverberation direction signal.

8. The apparatus as claimed in claim 6, wherein the reverberation generator is a left reverberation generator, which uses a finite impulse response (FIR) filter to process the integrated left reverberation direction signal.

9. The apparatus as claimed in claim 7, wherein the reverberation generator is a right reverberation generator, and the right reverberation generator uses a FIR filter to process the integrated right reverberation

direction signal.

10. The apparatus as claimed in claim 1, wherein the space processor is used to perform a timing control and adjust a mixed volume of the signals output from the sound integrators.

11. The apparatus as claimed in claim 8, wherein the left reverberation generator is a first filter correlating very little with a right reverberation generator, the right reverberation generator being a second filter.

12. A method for generating a stereo sound, comprising:

using at least a direct sound positioner to generate at least a direct sound signal after receiving an input sound channel;

using at least a reverberation positioner to generate at least a reverberation direction signal after receiving the input sound channel;

using at least a first sound integrator to receive the direct sound signal and output an integrated direct sound signal;

using at least a second sound integrator to receive the reverberation direction signal and output an integrated reverberation direction signal;

using at least a reverberation generator to receive the integrated reverberation direction signal and output a reverberation signal; and

using at least a space processor to receive the integrated direct sound signal and the reverberation signal and output stereo sound for a user.

13. The method as claimed in claim 12, wherein the direct sound signal generated by the direct sound positioner is a right direct sound signal or a left direct sound signal.

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14. The method as claimed in claim 12, wherein the reverberation direction signal generated by the reverberation positioner is a right reverberation direction signal or a left reverberation direction signal.

15. The method as claimed in claim 13, wherein the first sound integrator is a left sound integrator used to receive the left direct sound signal generated by the direct sound positioner to output an integrated sound signal, the integrated sound signal being an integrated left direct sound signal.

16. The method as claimed in claim 13, wherein the first sound integrator is a right sound integrator used to receive the right direct sound signal generated by the direct sound positioner to output an integrated sound signal, the integrated sound signal being an integrated right direct sound signal.

17. The method as claimed in claim 14, wherein the second sound integrator is a left sound integrator used to receive the left reverberation direction signal generated by the reverberation positioner to output an integrated sound signal, the integrated sound signal being an integrated left reverberation direction signal.

18. The method as claimed in claim 14, wherein the second sound integrator is a right sound integrator used to receive the right reverberation direction signal generated by the reverberation positioner to output an integrated sound signal, the integrated sound signal being an integrated right reverberation direction signal.

19. The method as claimed in claim 17, wherein the reverberation generator

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is a left reverberation generator, which uses a FIR filter to process the integrated left reverberation direction signal.

20. The method as claimed in claim 18, wherein the reverberation generator is a right reverberation generator, and the right reverberation generator uses a FIR filter to process the integrated right reverberation direction signal.

21. The method as claimed in claim 12, wherein the space processor is used to perform a timing control and adjust a mixed volume of the signals output from the sound integrators.

22. The method as claimed in claim 19, wherein the left reverberation generator is a first filter correlating very little with a right reverberation generator, and the right reverberation generator is a second filter.

23. A method for generating a stereo sound, used to integrate a plurality of sound channel into a stereo sound channel, the method comprising:

sending each of the sound channels to a corresponding direct sound positioner and a corresponding reverberation;

sending a left sound channel and a right sound channel output from the direct sound positioner to a first left sound integrator and a first right sound integrator, respectively;

sending a left sound channel and a right sound channel output from the reverberation positioner to a second left sound integrator and a second right sound integrator, respectively;

processing integrated signals output from the second left sound integrator and second right sound integrator via a left reverberation

generator and a right reverberation generator, respectively;

sending an integrated signal output from the first left sound integrator and a generated signal output from the left reverberation generator to a first space processor for processing; and

sending an integrated signal output from the first right sound integrator and an generated signal output from the right reverberation generator to a second space processor for processing.

24. The method as claimed in claim 23, wherein the left or right reverberation generator is composed of an FIR filter.

25. The method as claimed in claim 23, wherein the left reverberation generator is a first filter and the right reverberation generator is a second filter, and the correlation between the first and second filters is low.